Detection of Classical Enterotoxins of Staphylococcus aureus from Raw Cow, Sheep, Goat and Camel Milk by ELISA Methods

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Background & Objectives: Enterotoxigenic *Staphylococcus aureus* is still an important cause of foodborne intoxications worldwide and milk and dairy products are frequently contaminated with extrotoxigenic Staphylococcus aureus, which is often involved in Staphylococcal food poisoning. The aim of the present study was to investigate the presence of classical enterotoxins of *S. aureus* in raw cow, sheep, goat and camel milk that was produced in Fars province, Iran.

Methods: For this purpose, 84 milk samples including cow (n= 35), sheep (n= 20), goat (n= 21) and camel (n= 8) were collected from bulk milk tanks of 35 milking farm during three seasons of fall, winter, and spring and tested for staphylococcal enterotoxins (SEs) presence by Enzyme-linked immunosorbent assay (ELISA) Methods.

Results: Out of 84 samples studied, 12 samples (14.2%) were positive for at least one SE. Of these, 3 were positive for SEA, 2 for SED, 2 for SEC, 2 for SEA+SED, 1 for A+C and 2 for SED+SEC. None of the samples was positive for SEB and SEE. Statistical evaluation showed that there were not significant differences (P>0.05) between the presence of SEs of raw milk samples tested in fall, winter, and spring.

Conclusion: Further studies should be carried out to investigate the presence of these toxins in different foods and their roles in food poisoning.

Keywords: Staphylococcus; Enterotoxins; Milk